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HW#17: Parallel Lines

Geometry

Due: Monday, Oct 5th

Failure to show work will result in LaSalle.

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| 1) Pricila says that the two diggers *must* cross paths. Is this true? How do you know? Explain your reasoning in at least 2 sentences and use calculations to justify your answer. | |
| 2) Write the equations that might best represent the path or digger 1 and the path for digger 2. Show your work. | 3) Where will the two diggers meet? Show your work using the equations from number 2. |
| 4. Create and use a graph on a separate piece of graph paper to find where the two diggers will meet in order to validate your answer above. Staple the graph to your homework. | |

Part II: Review

Translations

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| 1. Suppose points *E(0,1).*  *F(0,4)*, and *G(6,1)* are vertices of right triangle *EFG*. Find the location of the new triangle, *E’F’G’*, if the triangle is translated 3 units up and 4 units left.   Prove that the size of the triangle has not changed by showing that the length of the hypotenuse of triangle *E’F’G’* equals the length of the hypotenuse of triangle *EFG*. |

Parallel Lines

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| 6. Write the equation of a line that is parallel to *y = 2x + 1* and goes through the point (-2,-7).  Explain your reasoning. | 7. Write the equation of a line that is parallel to *y = -.5x + 1* and goes through the point (3,8).  Explain your reasoning. |
| 8. Suppose the line *f(x)* goes through the points (0,3) and (5,8). Write the equation of the line that is parallel to *f(x)* and goes through the point (-4,-2). | 9. Suppose the line *f(x)* goes through the points (0,3) and (5,8). Write the equation of the line that is parallel to *f(x)* and goes through the point (-4,-2). |
| 10. Which of the following lines are parallel in the coordinate plane?   1. *y=2x+1* 2. *y=2x-2.5* 3. *y=0.5x + 1* 4. *y= -2x +1* 5. I, III, and IV 6. I, and II. 7. III 8. IV   Explain your reasoning. | |

Midpoint

Find the midpoint of the two given coordinates

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| 1. (1,-2), (-4,-4) | 1. (-2,-1), (-4,-3) |